

REMARKS

In the Office Action mailed January 15, 2004, the Examiner noted that claims 1-23 were pending, allowed claims 20-23, and rejected claims 1-19. Claims 1, 8, 15 and 16 have been amended, claim 17 has been canceled, new claim 24 has been added and, thus, in view of the forgoing claims 1-16 and 18-24 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections and objections are traversed below.

The Office Action rejects claims 1-19 under 35 U.S.C. § 103 over Mikoshiba and Matsushiro.

The present invention of claims 1-19 is directed at removing pseudo-contours or false contours by controlling an intensity of light produced in the frames or in the sub-frames. In contrast to Mikoshiba and Matsushiro, the present invention determines a light emission waveform from a current frame and a previous frame, performs Fourier expansion of an error between the determined light emission waveform and a target light emission waveform, assigns weights to the Fourier components of the error to add up the Fourier components of the error, determines a light emission waveform, performs Fourier expansion of an error and assigns weights to Fourier components to add up the Fourier components more than once while changing a value of the display frame data of the current frame in each time, compares the calculated sum values, and sets the display frame data of the current frame corresponding to a minimum sum value (see, for example, claim 1).

Mikoshiba is also trying to prevent false contours. However, Mikoshiba does so in a very different way than the present invention. In Mikoshiba a motion vector A for halftone image motion between frames is produced. A light emission delay time between a particular sub-frame and the first sub-frame is determined. This delay time is divided by a frame period producing the number or scalar value called a control function. The motion vector A is multiplied by the control function. In this situation, the length of the motion vector is changed. This motion vector is used to move the image in the sub-frame to this calculated position. Each sub-frame thereby has an individual motion vector. Mikoshiba reduces false contouring by moving the image in the sub-frames using sub-frame motion vectors calculated at the sub-frame level. This is very different from the approach taken by the present invention.

Matsushiro discloses setting of quadrants in a pattern matrix in the equal positive and negative intervals. Matsushiro does not teach or suggest the features of the present invention discussed above.

The combination of Mikoshiba and Matsushiro does not teach or suggest the features of claims 1, 8, 15 and 16.

The dependent claims depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the prior art. For example, claims 7 and 14 emphasize the target waveform being a linear approximation of transitions in target emission values. The Examiner points to certain portions of Mikoshiba for this feature. The Examiner is requested to review the portions of Mikoshiba again as they do not appear to support the Examiner's allegation. The Examiner is requested to more precisely note the place in the prior art where this feature is allegedly found. Nothing in the prior art teaches or suggests this feature. It is submitted that the dependent claims are independently patentable over the prior art.

New claim 24 emphasizes the use of a table look up process to determine a new light emission pattern from a light emission pattern of a past frame and a display graduation level. Nothing in the prior art teaches or suggests such. It is submitted that the new claim distinguishes over the prior art.

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

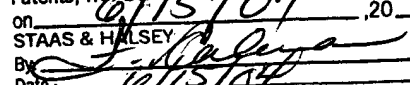
STAAS & HALSEY LLP

Date: 6/15/14

By: 

✓ Randall Beckers
Registration No. 30,358

1201 New York Ave, N.W., Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

CERTIFICATE UNDER 37 CFR 1.8(a)
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on 6/15/14, 2014
By 
Date: 6/15/14